KARPOV, P.A.

3(5)   PHASE I BOOK EXPLOITATION   SOV/1827

Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut

Geologiya i neftegazonosnost' yugo-vostochnykh rayonov Russkoy platformy (Geology and Oil and Gas Bearing Characteristics of the Southeastern Regions of the Russian Platform) Leningrad, Gostoptekhizdat, 1958. 242 p. Errata slip inserted. 1,200 copies printed.

Resp. Ed.: Ya.S. Eventov; Eds.: M.S. Burshtar, N.S. Il'ina, and I.A. Sakhnovskiy; Tech. Ed.: A.B. Tsabshurzhinskaya; Executive Ed.: N.V. Kalikov.

PURPOSE: This book is intended for petroleum exploration geologists, particularly those interested in the Russian platform area.

COVERAGE: These articles, originally read at a meeting of the Scientific and Technical Council of Ministry of the Petroleum Industry (1953), discuss the geologic structure of the south-

Card 1/5

eastern parts of the Russian platform, the planning of exploratory and prospecting work, and special problems in geochemistry. Studies are aimed at realizing the oil and gas potential of the area. Representatives of VNIGNI, VNIGRI, the Stalingradnefte-razvedka Trust, Saratovneft', Kazakhstanneft', and Orenneft' contributed to the work. No references are given.

AUTHORS: Veselovskaya, M. M., Karpov, P. A.   SOV/20-121-5-35/50

TITLE: The Proterozoic Rocks of the Eastern Slope of the Voronezh
               Massif (Proterozoyskiye porody vostochnogo sklona
               Voronezhskogo massiva)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 5,
               pp. 893-896 (USSR)

ABSTRACT: Proterozoic rocks were found in the vicinity of the massif,
               viz. in 11 bore holes. They are embedded in a depth of from
               145 to 2170 m. Various symptoms indicate that the concerned
               area formed a peneplain during the sedimentation of the Devo-
               nian Deposits. The Eastern slope referred to in the title has
               been formed at the beginning of the Devonian time. The Pre-
               Cambrian Rocks descend eastwards, not evenly bedded, however,
               but in steps. 2 steps are investigated. It may be easily
               assumed that these steps are accompanied by faults in the
               foundation. This assumption agrees well with the data obtained
               from electrical investigations by means of which "elevations"
               were uncovered in the foundation rock. From the following
               descriptions of the rock proceeds that intrusions of different

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The Proterozoic Rocks of the Eastern Slope of   SOV/20-121-5-35/50
the Voronezh Massif

ages are concerned. A north-east orientation both of the
steps and of the intrusions indicates an affiliation of the
latter with the deep faults of the foundation. A description
of the rock types from the above mentioned bore holes is
given. Figure 3 shows their distribution. Concluding, the age
of these rocks is discussed: they date from the Lower Protero-
zoic time, Taratashskaya Suite (Refs 6,1). It is correlated
with the Saksaganskaya series of Ukrainia (Ukraina), the
Carelian formations of Carelia (Kareliya) and the Huron
(Guron) of America (Biotite-tourmaline- and pyroxene-amphibole
slate). The age of the granite gneiss containing tourmaline
is hard to determine. They are either Neo-Archeozoic or Prote-
rozoic. All rocks investigated here are doubtless of sedimen-
tary origin. They are radically metamorphosed loamy and par-
tically carbonate rocks amongst which are also intermediary
inter-Aleurolite sandstones and slates. Concluding, the tour-
maline of that area has been mineralogically described.
There are 3 figures and 7 references, 6 of which are Soviet.

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The Proterozoic Rooks of the Eastern Slope of   SOV/20-121-5-35/50
the Voronezh Massif

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
               neftyanoy institut (All-Union Scientific Research Institute
               of Geological Petroleum Prospecting)

PRESENTED: March 31, 1958, by N. M. Strakhov, Member, Academy of Sciences,
               USSR

SUBMITTED: March 31, 1958

Card 3/3

KARPOV, P. A.: Master Geolog-Mineralog Sci (diss) -- "The devonian deposits of Stalingrad Oblast". Moscow, 1959. 17 pp (Min Geology and Protection of Natural Resources USSR, All-Union Sci Res Geological Prospecting Inst VNIGNI), 150 copies (KL, No 16, 1959, 106)

KARPOV, P.A.

Boundary between the Devonian and Carboniferous in Stalingrad
Province. Trudy VNIGNI no.14:131-136 '59.   (MIRA 12:10)

1.TSentral'naya nauchno-issledovatel'skaya laboratoriya tresta
Stalingradneftegazrazvedka.
                   (Stalingrad Province--Geology, Stratigraphic)

KARPOV, P.A.

Middle Devonian and underlying sediments west of the Volga
in Stalingrad Province. Trudy VNIGNI no. 19:66-79 '59. (MIRA 13:12)
(Stalingrad Province--Geology, Stratigraphic)

3(5)

AUTHOR: Karpov, P. A.   SOV/20-125-4-48/74

TITLE: On the Problem of the Age of the Caspian Depression (K voprosu
              o vozraste Prikaspiyskoy vpadiny)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 859-861
              (USSR)

ABSTRACT: Several research workers are of the opinion that the Caspian
              Depression is very old (Ripheic of Eiffelian age) (Refs 1,
              4, 7, 9). There are, however, no data available to support
              these assumptions. The decrease in the thickness of Devonian
              sediments in the region east of the Volga near Saratov was
              the motive for Ya. S. Eventov's (Ref 2) revision of the mentioned-
              ed assumption (also Ref 5). Although this is doubted the au-
              thor gives several proofs in favor of the Devonian age of
              the mentioned depression. From the comparison of the Frasnian
              and Fammenian sediments (Table 1) in the zone of the Donc-
              Medveditskiye dislocations and the sections of the most deeply
              embedded parts of the Moskovskaya syneclisis it becomes ob-
              vious that the former mentioned dislocations are more justi-
              fied to be regarded as a depression than the aforesaid syneclisis.
              Charts showing equally thick sediments (Fig 1) clearly reveal
Card 1/2   that the Caspian Depression (Prikaspiyskaya vpadina) penetrated

On the Problem of the Age of the Caspian Depression   SOV/20-125-4-43/74

right-angled into the body of the Russian Platform (Russkaya plita). All considerations of the present paper as to the sedimentation of the Caspian Depression concern the Devonian sediments. On the basis of the mentioned data it can be assumed that the Caspian Depression was in the process of formation in any case already in the Upper Devonian and not only in the Lower Permian (Refs 2, 5). This formation was accompanied by breaks of the fundament already in the Devonian. The Caspian Depression was apparently shifted from West to East and North to South. The extent of the depression - a downwarping part of the Russian Platform - decreased in the course of geologic ages. There are 1 figure, 2 tables and 9 Soviet references.

PRESENTED: November 21, 1958, by D. V. Nalivkin, Academician

SUBMITTED: November 16, 1958

Card 2/2

3(5)   SOV/20-128-2-38/59
. AUTHORS: Karpov, P. A., Lyashenko, A. I., Nechayeva, M. A.,
               Shevchenko, V. I.

TITLE: Brachiopods of the Ural   Type in Devonian Deposits of
               Stalingrad Oblast'

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 2, pp 359-361
               (USSR)

ABSTRACT: The Middle and Upper Frasnian deposits of the above region
               including the Zhirnovskaya area contain a fauna characteristic
               of the corresponding deposits of the central oblasts. However,
               a brachiopod fauna very similar to that of the Samsonovskiy,
               Askynskiy and Barminskiy horizons of the Ural were found on
               the Linevskoye elevation (15 km eastwards) in the upper half
               of the Frasnian stage. Furthermore, foraminifers and ostracods
               were found in the brownish-grey, bituminous fine-grained lime-
               stones of   borehole Nr 30 (between 2337 and 2342 m) and
               Nr 32 (2276-2281-2286-2295 m). The fauna was classified by
               A. I. Lyashenko and G. P. Batanova (Ref 1). According to B. P.
               Markovskiy, it belongs to the Mendymskaya strata. The latter
Card 1/3   are, however, of the same age as the Samsonovskiye strata ac-

SOV/20-128-2-38/59

Brachiopods of the Ural : Type in Devonian Deposits of   Stalingrad Oblast'

cording to the unified scheme. According to Lyashenko the lat-
ter are younger than the Mendymskiye ones. Almost all brachio-
pods found occur in the Samsonovskiye and in the lower part of
the Askynskiye strata of the Ural (Refs 3,7). A similiarity of
the fauna of the upper half of the Frasnian in Linevo and in
the Ural proves a far-reaching connection of the waters of the
Prikaspiyskaya (Caspian) depression and the Ural. It is assumed
that conditions prevailed here and there that favored the ex-
istence of similar fauna complexes. An abrupt change of facies
apparently occurred in the zone of the foundation fracture, in
the section between Linevo and Zhirnovsk. A normal fauna char-
acteristic of the central part of the Russian platform developed
at that time. The change of sedimentation conditions was accom-
panied by a considerable increase of the thickness of the cor-
responding deposits in the region of Linevo. There are 10
Soviet references.

ASSOCIATION: Tsentral'naya nauchno-issledovatel'skaya laboratoriya
Upravleniya neftyanoy i gazovoy promyshlennosti Stalingradskogo
Card 2/3   Soveta narodnogo khozyaystva (Central Scientific Research

. Brachiopods of the Ural   Type in Devonian Deposits of   Stalingrad Oblast'

SOV/20-128-2-38/59

Laboratory of the Administration of the Petroleum- and Natural Gas Industry of the Stalingrad Council of National Economy)

PRESENTED: May 8, 1959, by D. V. Nalivkin, Academician

SUBMITTED: May 5, 1959

Card 3/3

KARPOV, P.A.

Devonian sediments in Stalingrad Province. Biul.MOIP.Otd.geol.
34 no.4:159-160 Jl-Ag '59. (MIRA 13:8)
(Stalingrad Province--Sediments (Geology))

KARPOV, P.A.

Paleoclimatological problems and identification of Devonian strata
in the southeastern part of the Russian Platform. Dokl. AN SSSR 140
no.3:662-665 S '61.   (MIRA 14:9)

1. Nauchno-issledovatel'skiy institut neftyanoy i gazovoy
promyshlennosti, g. Stalingrad. Predstavleno akademikom N.M.
Strakhovym.
          (Volograd Province--Geology, Stratigraphic)

KARPOV, P.A.

Paleogeography of the time of formation of Upper Frasnian
porous and cavernous carbonate rocks of Volgograd Province.
Dokl.AN SSSR 149 no.1:158-161 Mr '63.   (MIRA 16:2)

1. Nauchno-issledovatel'skiy neftyanoy i gazovoy promyshlen-
nosti, Volgograd. Predstavleno akademikom N.M.Strakhovym.
                   (Volgograd Province—Rocks, Carbonate)

KARPOV, P.A.; NAZARENKO, A.M.; NECHAYEVA, M.A.; SHEVCHENKO, V.I.

Stratigraphy of Devonian sediments in the Don-Medveditsa
swell and the Tersinskaya Depression. Trudy VNIING no.1:
17-38 '62.   (MIRA 16:10)

KARPOV, P.A.; SHEVCHENKO, V.I.; TEBYAKIN, V.V.; NECHAYEVA, M.A.;
NAZARENKO, A.M.

Unconformity in the Upper Frasnian substage in the western
part of Volgograd Province. Geol. nefti i gaza 7 no.12:41-44
D '63.   (MIRA 17:8)

KARPOV, P.A.

Some characteristics of the porosity variations of terrigenous
rocks depending on the depth of occurrence as revealed by a study
of Devonian sediments in Volgograd Province. Lit. i pol. iskop. no.
5:118-121 S-O '64.   (MIRA 17:11)

1. Volgogradskiy nauchno-issledovatel'skiy institut neftyanoy i
gazovoy promyshlennosti.

KARPOV, P.A.

     History of the eastern part of the Voronezh arch in the Devonian.
Izv.vys.ucheb.zav.; geol. i razv. 8 no.2:30-36 F '65.

                                        (MIRA 18:3)

    1. Volgogradskiy nauchno-issledovatel'skiy institut neftyanoy i
gazovoy promyshlennosti.

SHEVCHENKO, V.I.; KARPOV, P.A.; NECHAYEVA, M.A.; NAZARENKO, A.M.

Upper Famennian sediments in the southeastern part of the Russian
Platform. Dokl. AN SSSR 160 no.4:927-930   J '65.

(MIRA 18:2)

1. Nauchno-issledovatel'skiy institut neftyanoy i gazovoy promyshlen-
nosti, Volgograd. Submitted May 21, 196..

SKLOVSKIY, A.M.; VOLOKH, A.G.; KARPOV, P.A.; KONDRAT'YEVA, M.G.; LYASHENKO, A.I.; FEDOROVA, T.I.; SHEVCHENKO, V.I.

Devonian sediments of the western part of the northern Caspian oil- and gas-bearing basin. [Trudy] NILneftegaza no.10:127-181 '63. (MIRA 18:3)

1. Nauchno-issledovatel'skava laboratoriya geologicheskikh kriteriyev otsenki perspektiv neftegazonosnosti; Vsesoyuznyy nauchno-issledovatel-skiy geologorazvedochnyy neftyanoy institut; Nizhnevolzhskiy nauchno-issledovatel'skiy institut geologii i geofiziki i Volgogradskiy nauchno-issledovatel'skiy institut neftyanoy i gazovoy promyshlennosti.

KARPOV, P.A.; CHUGUNOV, N.A.

New data on Devonian effusive activity in the eastern slope of the Voronezh Massif. Dokl. AN SSSR 165 no.4:894-897 D '65.   (MIRA 18:12)

1. Submitted May 13, 1965.

ROGOZINA, K.P.; KORCHAGINA, Yu.I.; KARPOV, P.A.; GORENBEYN, J.A.; PERTINA, T.Y.

Geochemical characteristics of Upper Devonian sediments in some areas of Volgograd Province. Trudy VNIGNI no.33:72-116 '62.
(MIRA 18:12)

KARPOV, P.F.

Palliative operations in tumors of the pancreas. Sov.med. 24
no.3:11-15 Mr '60.   (MIRA 14:3)

1. Zav. khirurgicheskim otdeleniyem bol'nitsy "Sokolinaya gora"
(glavnyy vrach A.M.Pyl'tsova, nauchnyy rukovoditel' - prof.
A.I. Mironov).
                    (PANCREAS---TUMORS)

USSR

Casting steel shot. P. T. Efimov, N. I. Mikhalev, and P. G. Karpov. *Lit.-Inoe Proizvodstvo* 1954. No. 6, 1-3.—Steel shot for shot blasting and well drilling costs. 0.6–1.1% Cr, 0.5–0.8 Mn, 0.2–0.7 Si is made by pouring molten steel through 10-14-mm. nozzles on a steel drum partially immersed in a water tank and rotating at a peripheral speed slightly greater or equal to the falling velocity of an element of steel stream, and carrying on its surface a layer of water 3–3.5 mm. thick. Normal shot formation takes place when the stream falls on a surface inclined to the horizontal not more than 5°, which is provided by a drum 380–450 mm. in diam. The walls of the tank should not be closer than 2.5–3 in. to the drum to prevent sticking of molten drops to them. About 70% of the charge is converted into shot free from porosity and 90% of which lie between 0.8 and 5.0 mm. diam.   I. D. G.

AID Nr. 992-7   18 June

KARPOv, P.G.

AN APPROXIMATE DIFFERENTIATION OF PFM INFORMATION (USSR)

A method is described, developed by the Ryazan' Radiotechnical Institute,
for the approximate differentiation of continuous PFM information. It is shown that
the accuracy of differentiation will be higher the greater the difference
between $\Delta \tau$ and T_x (i.e., $\Delta \tau \ll T_x$), where T_x is the period of the initial
pulse sequence (N_1^x) and $\Delta \tau$ is a small, fixed time increment during which
the change in the sequence occurs. In the method described the operation
of the approximate differentiation leads to the development of a new pulse
sequence N equal to the difference between pulse sequence
N_1, which models a change in the physical quantity $X_1(t)$, and N_1^i, which is de-
layed for a finite period $(\Delta \tau)$ by pulse sequence N_1. In the device using this
method the differentiated pulse sequence N_1 is applied to the delay block, where
the new pulse sequence N_1^i is formed. This new sequence is applied to the follow-
ing block simultaneously with the initial information (N_1). The primary function
of this block is to exclude those pulses from sequences N_1 and N_1^i which
coincide in time. The output of this block provides a new pulse sequence which

Card 1/2

AID Nr. 992-7   18 June

AN APPROXIMATE DIFFERENTIATION [Cont'd]   8/146/63/006/002/004/010

appears at the output stage, consisting of two triodes. If N_1 is greater than N_1',
a sequence with positive polarity appears at the output of one triode, but if N_1
is less than N_1', it appears at the other triode with negative polarity. W h e n
N_1 equals N_1' there will be no pulses. The new continuous sequence obtained
(N) is linked with the initial information $N_1(t)$ by the relationship $N = k(dN_1/dt$. [GS]

Card 2/2

KARPOV, P.I., inzhener.

      Gut faces economically. Gidroliz.i lesokhim.prom. 9 no.6:23 '56.
                                        (MIRA 9:10)

      1.Zagaynevskiy khimleskhoz.
                     (Tree tapping)

KARPOV, P. L.   PA 196T2

USSR/Biology - Genetics Breeding of Sheep   Nov 51

"Effect of Changed Conditions of Embryogenesis on the Growth and
Development of Lambs, "A. I. Lopyrin, Cand Agr Sci, N. V. Loginova,
Cand Biol Sci, P. L. Karpov, All-Union Sci Res Inst of Sheep and Goat
Breeding

"Sov Zootekh" Vol VI, No 11, pp 83-95

Describes expts on transplanting 24-hr-old sheep fetuses into sheep
of a different strain. Results varied with the strains involved, but
heightened vitality of the lambs was generally achieved together with
some modifications of the character of the wool covering in particular
cases. Transplantations of sheep fetuses into goats were unsuccessful.
Reviews some USSR work on vegetative hybridization of animals. Mentions
Nikulina's finding in expts on rabbits to the effect that the stock is
improved when the males receive alk nutritional components while the
females are fed acidic components.

PA 196T2

KARPOV P. L

USSR/Cultivated Plants. Fodder Plants.   M

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68235

Author   : Dudar', A., Karpov, P.
Inst   : Stavropol' Institute of Sheep Husbandry.
Title   : Winter Vetch, a Valuable Fodder Crop.

Orig Pub : Peredov. opyt. s.-kh. proiz-va Stavropolya,
            1957, iyul-avg., 16-18

Abstract : Experiments conducted over the years of
            1955-1957, on farms of the Stavropol' Insti-
            tute of Sheep Husbandry (zone of fluctuating
            precipitation, Stavropol' Kray), demonstra-
            ted that on sowings of mixed winter barley
            and woolly-pod vetch, average yields of green
            mass were 176.3 centners/hectare. In the
            drought zone, vetch mixed with winter wheat

Card   : 1/2

USSR / General Biology. Individual Development.   B
        Transplantation and Symphysis.

Abs Jour   : Ref Zhur - Biologiya, No 4, 1959, No. 14402

Author   .: Lopyrin, A. I.; Loginova, N. V.; Karpov, P. L.
Inst   : Not given
Title   : The Acclimatization and Development of
               Embryos in Ewes After Homoplastic Trans-
               plantation

Orig Pub   : Vestn. s.-kh. nauki, 1957, No 1, 53-62

Abstract   : In ewes the oviduct was removed 1-2 days
               after fertilization of the ovum and zygotes
               were introduced into the oviduct of
               recipients of another breed. Twenty-nine
               transplanted zygotes took root. Only 3 lambs
               were found to be able to survive. The ex-
               perimental lambs developed more intensively

Card 1/2

USSR / General Biology. Individual Development.   B

Abs Jour   : Ref Zhur - Biologiya, No 4, 1959, No. 14402

               than controls and they possessed normal
               reproductive function ability. In their
               appearance the lambs could not be dis-
               tinguished from monogenetic control lambs.
               When ewes which were raised from experimental
               animals were interbred, lambs of an unusual
               appearance were bred. When interbreed trans-
               plantations of zygotes were repeated the
               authors did not succeed in determining the
               effect of the recipient mother upon the
               development of the embryo except for the fact
               that experimental lambs developed better. --
               L. D. Liozner

Card 2/2

KARPOV, P.L.

What the Institute of Sheep Breeding is doing towards the improvement of wool. Nauka i pered.op. v sel'khoz. 7 no.8:60-62 '57. (MIRA 10:9)

1. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta ovtsevodstva i kozovodstva.
(Wool)   (Sheep breeding)

USSR/Farm Animals - Small Horned Stock   Q

Abs Jour   :   Ref Zhur - Biol., No 15, 1958, 69336

Author   :   Karpov, P.L., Khadanovich, I.V.
Inst   :   -
Title   :   Valuable Feed for Fine-Wool Sheep

Orig Pub   :   Kukuruza, 1958, No 1, 60-62

Abstract   :   No abstract.

Card 1/1

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KARPOV, P.L., kand.sel'skokhoz.nauk, red.; LOBKOV, M.Ya., red.;
STEBLYANKO, T.V., tekhn.red.

[Fine-wool sheep breeding] Tonkorunnoe ovtsevodstvo. Stavro-
pol', Stavropol'skoe knizhnoe izd-vo, 1960. 299 p.
(Sheep)   (MIRA 14:1)

KARPOV, P.M.; ISLAMOV, A.I., kand. geol.-min. nauk, otv. red.;
        NURATDINOVA, M.R., red.

[Subsidence phenomena in the virgin lands of the Golodnaya
Steppe] Prosadochnye iavleniia na tselinnykh zemliakh
Golodnoi stepi. Tashkent, Izd-vo "Nauka" Uzbekskoi SSR,
1964. 188 p.   (MIRA 17:6)

KARPOV, P.M.

Some data on the dediments in the Akcha-Darya (ancient channel of
the Amu-Darya). Zap. Uz. otd. Vses. min. ob-va no.11:109-113 '57.
(Amu-Darya Valley—Geology, Stratigraphic)   (MIRA 11:6)

KARPOV, P.M.

Forecasting the settling of soils in the construction zone of
the South Golodnaya-Steppe Canal. Mat. po proizv. sil.
Uzb. no.15:72-79 '60.   (MIRA 14:8)

1. Institut geologii AN UzSSR.
    (South Golodnaya-Steppe Canal region--Soil mechanics)

KARPOV, P. M.

Approximate calculation of metal charge mixtures by graphic
and analytical methods. Lit. proizv. no.10:39 O '62.
                                          (MIRA 15:10)

(Founding—Tables, calculations, etc.)

KARPOV, P.M.; BIDULYA, P.N.

    Investigating the loss of design elements in the components of a
cupola charge. Lit. proizv. no.8:24-26 Ag '62.   (MIRA 15:11)
                    (Cupola furnaces)

KARPOV, P.M.; BIDULYA, P.N.

Oxidation of cupola charge components during preheating.
Lit. proizv. no.1:14-15 Ja '65.   (MIRA 18:3)

KARPOV, P.P.

LA

2²

How can the latent reserves of the 2-furnace cracking system be utilized? P. P. Karpov. *Neftyanoe Prom* 22, No. 4, 101-2(1941); *Chem. Zentr.* 1943, I, 351. The suggestion of Togoev (C. A. 35, 7164⁹) to intensify the 2-furnace cracking system is dismissed as wrong. A consideration that the furnace for the light cracking is undercharged by 1-1.5 million kg.-cal./hr. and that the furnace for the severe cracking is overcharged by the same amt., as compared with the plan. The balance can be restored by switching the heat exchangers for the furnaces, improving thereby the efficiency of the system by 10-15% without using addnl. equipment.

A. K. Esterer

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KARPOV, P. P.

Detonating agents. Moskva, Gos. izd-vo oboronnoi promyshl., 1945.

KARPOV, P. P.

Petroleum Engineering

"Petroleum Refining (for trade schools)", Gostoptekhizdat, 1948

Summary No. 60, 26 May 52; BR-52056899

KARPOV, P. F.

Pererabotka nefti (Processing petroleum) 2 izd. perer. i dopol. Moskva, Gostoptekhizdat, 1953.

352 p. illus., diagrs., tables.

"Literatura": p. (346)

N/5
735.6
.K1
1953

GREBTSOV, G.I., red.; KARPOV, P.P., red.; KALMYK, V.A., red.; KHOLIN,
    I.A., red.; PONOMAREVA, A.A., tekhn.red.

    [Material balances in the national economic plan] Material'nye
    balansy v narodnokhoziaistvennom plane. Moskva, Gosplanizdat,
    1960.   248 p.   (MIRA 13:8)
            (Russia--Economic policy)

IVANOV, N.V.; MALYUTIN, N.K.; FLEYSHMAN, A.L.; KARPOV, P.P., inzh.,
    retsenzent; SAUTIN, I.A., ekonomist, retsenzent; SHUBNIKOV, A.K.,
    prof., doktor tekhn.nauk, red.; TKOCHUN, A.I., red.izd-va;
    UVAROVA, A.F., tekhn.red.

    [Supplying industries of regional economic councils with materials
    and equipment] Material'no-tekhnicheskoe snabzhenie promyshlen-
    nosti sovnarkhozov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
    lit-ry, 1961. 307 p.   (MIRA 14:6)
                    (Industrial procurement)

29333
S/119/61/000/010/005/008
D209/D303

26. Y190

AUTHOR: Karpov, P.S., Engineer

TITLE: Compact electrical bellows type differential manometer ДСЭ - M (DSZE - M)

PERIODICAL: Priborostroyeniye, no. 10, 1961, 28

TEXT: This instrument is designed for the measurement and control, by the variable drop method, of liquid, gas and vapor flow, pressure difference, pressure, thrust and liquid level. Its operation is based on the balancing of the force (due to pressure drop acting upon a sensing element) by the force of elastic deformation of two bellows filled with the fluid and the force of cylindrical range-spring. The lowest range is 0 - 40 mm and the highest 0 - 1000 mm of mercury. Static pressure - 320 Kg / cm^2. The electrical transducer is energized by a secondary electronic instrument, whose connecting leads' resistance and capacitance must not exceed 5 Ω and 0.01 μF respectively. There is 1 figure.

Card 1/1

KARPOV, P.S.

New instruments approved for serial production. Priborostroenie
no.10:28-29 O '61. (MIRA 14:9)
(Instruments)

KANDYMOV, Atagel'dy; KARPOV, P.Ya., red.

[Eyes of the time] Glaza vremeni. Ashkhabad, Turkmen-
izdat, 1965. 16 p.   (MIRA 18:10)

KARPOV, R.

Indirect hemagglutination reaction as a method for determining
the formation of antibodies to listerella. Trudy TomNIIVS 11:
228-231 '60.   (MIRA 16:2)

1. Nauchnyy studencheskiy kruzhok pro kafedre mikrobiologii
Tomskogo meditsinskogo instituta.
        (LISTERELLA) (ANTIGENS AND ANTIBODIES) (BLOOD—AGGLUTINATION)

9(3)

AUTHOR: Karpov, R.G. Docent

SOV/146-58-4-5/22

TITLE: An Instrument for Measuring Small Phase Shifts at In-
              creased Frequencies

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Priborostroye-
              niye, 1958, Nr 4, pp 26-33 (USSR)

ABSTRACT: The accuracy of phase shift measurements with conven-
              tional methods rarely exceeds 1-2 degrees. In the
              majority of practical applications in radio engineer-
              ing such an accuracy is fully adequate. However, in
              a number of cases this accuracy is insufficient. For
              example, when tuning operational amplifiers with nega-
              tive feedback it is necessary to know the phase shift
              angle between the input and back voltages, whose per-
              missible value is usually of the order of some 10
              minutes with an accuracy of 5' - 10'. **Analogous**
              tasks may be found when testing and adjusting various
              types of automatic devices for example, devices for
              control of different production processes, etc. In

Card 1/5   modern specialized literature, there are some refer-

SOV/146-58-4-5/22

An Instrument for Measuring Small Phase Shifts at Increased Frequencies

ences to methods of increased sensitivity and accuracy of phase shift measurements. However, there are no industrial-type devices for measuring the phase difference with a sensitivity up to several minutes at increased frequencies. In this paper, the author explains a device and a method for measuring small phase shifts of the order of 10-15 degrees with a reading accuracy of 5-10 minutes. With this device, small phase shifts are measured by comparing the time interval t_φ, which is to be determined by the phase difference to be measured, with a precisely known duration of the circular sweep, shaped by means of RC circuit from a sine voltage of a reference oscillator. Figure 1 shows the block diagram of this device. The voltage from the input of the amplifier to be tested U_{BX} and the voltage from its outlet $U_{B\phi CX}$ are shifted in phase by some angle   which is to be measured. The angle φ may have a magnitude of the order of some degree (with pair number of simplifier stages) or some-

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SOV/146-58-4-5/22

An Instrument for Measuring Small Phase Shifts at Increased Frequencies

what more or less than 180 degrees (with odd number of amplifier stages). The voltages U_{BX} and $U_{B \cdot CX}$ are fed thru the coupling cathode followers to 2 identical shaping circuits, each of which consists of 2 amplifier stages and a device shaping narrow pulses, built according to the regenerative amplitude comparator circuit. The principle circuit diagram of a regenerative comparator is shown in Figure 2. The voltage U_{BX} (or $U_{B \cdot CX}$) amplified by a pre-amplifier (amplitude not less than 20-25 v) is fed to the input of the comparator which is composed of one 6N8 tube in diode connection and one 6Sh4 in pentode connection. Two sequences of sufficiently short pulses are obtained, shifted in phase in regard to each other by the same angle φ which is the same as that of the sine voltage U_{BX} and $U_{B \cdot CX}$ taken from the input and the output of the amplifier to be tuned. These pulse sequences are fed thru a diode limiter, which cuts the positive pulses, to the grid of a summing tube 6N9 with a common anode load.

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An Instrument for Measuring Small Phase Shifts at Incteased Fre-
quencies

The resistor SP-1-2E is used as an anode load.   From
its slide the pulses are fed thru a separation capa-
citance to the central electrode of the 8L030 tube.
Sine voltages, shifted in phase by 90 degrees, are fed
to the deflecting plates of the tubes from the audio
frequency reference generator for performing the circu-
lar soanning with a duration equal to the cycle of the
sine voltage, fed from the audio frequency reference
generator.   The voltages shifted in phase by 90 degrees
are obtained by means of a simple RC circuits consist-
ing of the capacitor C and 2 series connected variable
resistors.   Feeding simultaneously the shaped pulses
and the voltage from the reference oscillator to the
screen of the oscillograph will produce an image as
shown in Figure 3.   The author describes in detail the
measuring method using the aforementioned device.   He
considers the limits of increasing the reading accuracy
and the measurement errors observed with this method.
Card 4/5   If an oscillograph with a tube having a central elec-

KARPOV, R.G.

Electronic instrument for measuring the pressure of engine ignition.
Izv. vys. ucheb. zav.; prib. no.2:34-40 '59.   (MIRA 13:2)

1.Ryazanskiy radiotekhnicheskiy institut. Rekomendovana kafedrami
teoreticheskoy radiotekhniki i radioelektroizmereniya.
      (Gas and oil engines--Ignition--Measurement)
      (Electronic instruments)

SOV/115-59-8-9/33

28(2)

AUTHOR: Karpov, R.G.

TITLE: Measuring Pressures of Type $P = P_0 + p(t)$ at $p(t) \ll P_0$

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 8, pp 21-25 (USSR)

ABSTRACT: The author describes a device and a method for measuring pressures with a small ratio of the pulsation amplitude in respect to the constant component. Presently, the problem of measuring rapidly changing pressures may be solved by means of any of the numerous pick-ups used for measuring purposes (inductance, piezo-electric, capacitance, carbon and other pick-ups). When measuring pressures in which the constant component is commensurable with the pulsation amplitude, these pick-ups will provide a sufficiently high accuracy. However, none of them is suitable for measuring pulsating pressures with small ratios of the pulsation amplitude in respect to the constant component of the pressure to be measured, i.e., pressures which are described by the equation $P = P_0 + p(t)$ at $p(t) \ll P_0$ Such problems are frequently found in combustion engine building when investigating the influence of pulsating pressures in tubes feeding fuel to nozzles, when measuring the

Card 1/3

Measuring Pressures of Type $P = P_0 + p(t)$ at $p(t) \ll P_0$

influence of pressure pulsations behind the booster in aircraft
engines on the quality of carburation, when measuring pressure
pulsations in gas turbine engines, etc. The application of con-
ventional pressure measuring methods in connected with a number
of difficulties in these cases. In the equipment described by the
author for measuring pressures with small ratios of the pulsation
amplitude in respect to the constant component, either a capaci-
tance pick-up with constant counter-pressure, or a capacitance
pick-up with reduced pressure, may be used. The pick-up with con-
stant counter-pressure is shown in fig.1. The measuring arrange-
ment with this pick-up is shown in fig.2. For measuring the afore
mentioned pressures with a variable constant component, the pick-
up with reduced pressure, shown in fig.3, proved to be more suit-
able. The capacitance pick-up is connected by means of a 12 m
long, two-screen, RK-49, coaxial cable to one of the bridge arms
of the measuring instrument, as shown in fig.4. This method of
connecting the pick-up and the cable excludes the influence of
the cable self-capacitance on the sensitivity of the system. The
Card 2/3   bridge circuit receives high frequency voltage from a Hartley

SOV/115-59-6-9/33

Measuring Pressures of Type $P = P_0 + p(t)$ at $p(t) \ll P_0$

oscillator ($f = 1.2$ mc) composed of one tube 6P6. The high-frequency amplifier is equipped with tubes 6Zh4. A modified cathode ray oscillograph EO-7, equipped with a photographic attachment, was used for recording the pressure curves. The author describes in detail the measuring method and the determination of the natural requency of the pick-up. The sensitivity of the pick-up and its self-oscillation frequency may change with temperature variations of the surrounding medium which should be taken into consideration. There are 2 diagrams, 2 block diagrams and 1 circuit diagram.

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9(6)   28(5)

S/146/59/002/06/006/016
D002/D006

AUTHOR: Karpov, R.G., Docent

TITLE: Measuring the Mean Indicator Pressure of Internal
            Combustion Engines

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Proborostroy-
            eniye, 1959, Nr 6, pp 38-40 (USSR)

ABSTRACT: The working of internal combustion engines is analyzed,
            and an instrument (Figure 4) measuring the mean indi-
            cator pressure during the operation of such engines
            by means of a direct-reading dial indicator is dis-
            cussed. The instrument's simple computer is built
            on two "6N9" triodes. The graduation curve (Figure
            6) of the device is given, and the results obtained
            by means of the new device and the Shelest indicator
            (Figure 7) are compared. Close agreement is obtained
            which shows that the new device is adequately accurate,

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S/146/59/002/06/006/016
D002/D006

Measuring the Mean Indicator Pressure of Internal Combustion Engines

Pressure determination can be carried out in a rela-
tively short time, therefore the device can simplify
the checking work in engine plants. The article was
recommended by the Kafedra teoreticheskikh osnov
radiotekhniki i radioelektroizmereniya (Chair of
the Theoretical Bases of Radio Engineering and Radio-
Electro-Measurements). There are 5 graphs, 2 diagrams,
and 4 Soviet references.

ASSOCIATION: Ryazanskiy radiotekhnicheskiy institut (Ryazan'
                Institute of Radio Engineering)

SUBMITTED: February 13, 1959

Card 2/2

69078

S/120/60/000/01/013/051
E192/E382

9.6000

AUTHOR: Karpov, R.G.

TITLE: Measurement of Small Phase Differences Between Two
            Sinusoidal Signals

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1,
            pp 57 - 58 (USSR)

ABSTRACT: It is necessary to measure the phase φ between two
            voltages U_1 and U_2 . The voltages are first applied
            to two buffer cathode followers and then to shaping
            circuits which form short pulses corresponding to the
            instant of the zero crossings of the sinusoids. Two
            trains of pulses shifted in time by an interval
            $t_\varphi = \varphi T/360^\circ$ are thus obtained; T is the period of
            the investigated waveform. The pulse trains are applied
            to an adding circuit and then to the control grid of a
            cathode-ray tube. Sinusoidal voltages shifted in phase
            by 90° are applied to the deflection plates of the tube.
            The waveform obtained on the screen of the tube is in
            the form of the circle shown in Figure 3a. If the
Card1/3   generator frequency is now gradually increased, the

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S/120/60/000/01/013/051
E192/E382

Measurement of Small Phase Differences Between Two Sinusoidal
Signals

position of the bright markers on the time base will
change and when the length of the circular time base is
equal to t_{φ} , the markers will coincide (Figure 3).

The measured angle can be evaluated from the formula:

$$\varphi = T_{o} \times 360°/T$$

where T_{o} is the period of the signal generator
frequency, which is used to produce the circular time
base. If the error in determining the coincidence of
the markers is 1 to $2°$, the error in determining φ is
reduced $360°/\varphi$ times. This accuracy can further be
increased by increasing the generator frequency by an
integral number of times. The greatest error in the
measurement by the above method is due to the phase
shifts in the pulse-forming circuits but this can be
almost fully eliminated by carrying out two measurements.
This is done by changing over the two forming circuits

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Measurement of Small Phase Differences Between Two Sinusoidal
Signals

     and determining the phase for each case.   There are
     3 figures and 4 Soviet references.

ASSOCIATION: Ryazanskiy radiotekhnicheskiy institut
     (Ryazan' Radio-engineering Institute)

SUBMITTED: December 13, 1958

Card 3/3

80902

24,2400

S/120/60/000/02/033/052
EC32/E314

AUTHOR: Karpov, R.G.

TITLE: Measurement of Small and Rapidly Varying Capacitances

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 2,
              pp 124 - 126 (USSR)

ABSTRACT: The principle of the bridge is illustrated in Figs 1 and 2.
            The measured capacitance is included in one of the arms of
            the bridge formed by the two inductances L_3 and L_4, the
            probe capacitance C_x and the variable capacitor C_{KO4},
            which is used in the preliminary balancing of the bridge and
            the choice of the working point. The capacitive probe is
            connected to the bridge by the doubly-screened cable, whose
            length must be chosen in accordance with the conditions of
            the experiment. The cable capacitance between the central
            wire and the first screen, which tends to reduce the sensi-
            tivity in ordinary circuits, is thus connected
            in parallel with L_4. In order to neutralize the effect
            of this capacitance, the adjacent arm L_3 is also shunted
            by a capacitance C_k', whose value is suitable chosen in
            a preliminary experiment and   is approximately equal
            to C_k, i.e. the cable capacitance. Owing to this method

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Measurement of Small and Rapidly Varying Capacitances

of connection, the length of the cable and its capacitance
has practically no effect on the sensitivity of the circuit
since the cable capacity can always be neutralized by
including a suitable value of C_k' in the adjacent arm of
the bridge. The bridge is supplied by a high-frequency
source, which is applied between the points a and 6
(Figure 1) through the stepdown transformer T_{p1}

(n = 10:1). The latter is fed by a 1.2 Mc/s oscillator.
The oscillator supplying the measuring bridge is based on
the 6ПC tube ($Л_1$), forming a Hartley oscillator and
including the primary of the transformer $_{p2}$ in its

anode circuit. Since the coils L_3 and L_4 are connected
in opposition, when the bridge is fully balanced, the high-
frequency voltage induced in L_5, which is the secondary
coil of the stepup transformer T_{p2} (n = 1:10), will be

zero since in a balanced bridge the voltages across L_3 and
L_4 are equal in magnitude and opposite in direction.
If the probe capacitance C_x is altered, the balance is

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S/120/60/000/02/053/052
E032/E314

Measurement of Small and Rapidly Varying Capacitances

upset and the voltages across L_3 and L_4 are different. Consequently, a high-frequency voltage appears across L_5 and the ampltidue of this voltage is proportional to the change in the capacitance of the probe. In order to increase the sensitivity of the bridge, L_5 is shunted by a capacitance C_1 (Figure 2), whose magnitude is chosen so that the oscillatory circuit L_5C_1 is tuned to the high-frequency voltage feeding the bridge. In this way the oscillatory circuit L_5C_1 is used to obtain a high-frequency voltage which is amplitude-modulated in accordance with the time variation in the probe capacitance $\triangle C_x = f(t)$. This signal is then amplified by the two-stage high-frequency amplifier (Π_2 and Π_3) and is detected by Π_4. The output can be exhibited either on the CRO screen or can be recorded with a pointer instrument. The circuit has been used with a capacitive probe having the following parameters: initial capacitance 10 $\mu\mu F$; maximum change in capacitance within the linear part of the characteristic 1.5 $\mu\mu F$; maximum length of cable 12 - 15 m (without loss of sensitivity). There are 2 figures and 4 Soviet references.

ASSOCIATION: Ryazanskiy radiotekhnicheskiy institut (Ryazan Radio-Engineering Institute)

SUBMITTED: February 9, 1959

Card 3/3

KARPOV, R.G.

Measuring true horse power of internal combustion engines. Izv.
vys.ucheb.zav.; prib. 4 no.3:24-33 '61.   (MIRA 14:6)

1. Ryazanskiy radiotekhnicheskiy institut. Rekomendovana
kafedroy radioelektroizmereniy.
                    (Electronic instruments)

S/146/61/004/004/002/015
D209/D306

AUTHOR: Karpov, R.G.

TITLE: An apparatus for measuring the effective power of
            internal combustion engines

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priboro-
            stroyeniye, v. 4, no. 4, 1961, 7 - 17

TEXT: The paper describes the construction and operation of an
apparatus for measuring the effective power of internal combustion
engines. This method is claimed to be superior to the usual ones
(mechanical, hydraulic, electrical), also to the method described
by A.M. Turichin utilizing inductive transmitters (Ref. 2: Elek-
tricheskiye izmereniya neelektricheskikn velichin (Electrical Mea-
surements of Non-Electrical Quantities) Gosenergoizdat, 1959); and
to the method utilizing photoelectric transmitters. To solve the
problem with the aid of modern electronics one must obtain the fol-
lowing two voltages

$$U_1 = \kappa_1 M_t, \quad U_2 = k_2 n \qquad (2)$$

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S/140/61/004/004/002/015
D209/D306

(M_t - engine torque in Kgm; n - shaft revolutions in r.p.m.) and
to obtain their product by means of a multiplying electronic cir-
cuit as a new voltage U which can be measured by a single meter ca-
librated in H.P. On an elastic shaft coupled with the transmission
link between the engine and the load two sprocket wheels are moun-
ted at a distance l_0 from each other. Opposite each of them two in-
duction pulse transmitters are fixed, each consisting of a magnet
and a coil. The rotation of the sprocket wheels induces short vol-
tage pulses in the coils with the frequency $f = ni/60$, where i the
number of teeth. In this way, two sequences of pulses are obtained,
their phase difference being proportional to the angle of torsion
of the elastic shaft between the sprocket wheels. The pulses are
transmitted through two identical channels (described) in order to
obtain the voltages U_1 and U_2. The product of the voltages is ob-
tained by means of an electronic multiplier of a time-pulse type.
This article was recommended by the Kafedra radioelektroizmereniya
(Department of Radio Electrical Measurements). There are 4 figures
and 3 Soviet-bloc references.

Card 2/3

S/115/62/000/003/007/010
E192/E382

AUTHOR: Karpov, R.G.

TITLE: An electronic maximum gauge

PERIODICAL: Izmeritel'naya tekhnika, no. 3, 1962, 22 - 24

TEXT: One of the important parameters characterizing the
operation of an internal combustion engine is the maximum
detonation pressure P_z . The instruments employed for the

measurement of P_z are usually of the electromechanical or

electropneumatic type and these are generally unsatisfactory.
A device based on a capacitive transducer was therefore
designed. The transducer converts the pressure changes in the
cylinder of the combustion engine into proportional capacity
changes $\Delta C = kP(t)$. The capacity change is fed into an
electronic circuit whose output voltage $U = k_I \Delta C = k_o P(r)$ is

proportional to the capacitance changes and thus the pressure
changes. The electronic unit is followed by an indicator -
meter which permits measurement of $P_{max}(t) = P_z$. The

Card 1/3

An electronic maximum gauge

S/115/62/000/003/007/010
E192/E382

capacitive transducer is water-cooled (see Fig. 1) and consists of a cylindrical body whose walls contain two apertures 2 for admitting the cooling water. The diaphragm 3 of the transducer, which forms the capacitive pick-up is an integral part of the body. The water is prevented from entering the cylinder of the engine by the plate 11, made of thin steel. The fixed plate 6 of the pick-up is attached to the body by means of the nut 7 and insulating bushings 9 and 10. The initial capacitance of the transducer is $C_o = 15$ pF and this is adjusted by suitably choosing the thickness of the washer rings 8 which control the distance between the diaphragm 3 and the fixed plate 6. If the capacitance changes amount to 8-12% of C_o the transducer operates linearly. The capacitance of the tranducer is connected into one of the arms of an AC bridge by means of a double-screened cable. The bridge is supplied with a high frequency voltage (1.2 Mc/s) from an oscillator and forms an input circuit of a two-stage high-frequency amplifier. The unbalance voltage in the bridge is proportional to the

Card 2/3

An electronic maximum gauge

S/115/62/000/003/007/010
E192/E382

capacitance change $\triangle C$. The voltage produced in the detector
for following the amplifier stage is also proportional to $\triangle C$
and thus proportional to the instantaneous value of pressure in
the cylinder of the investigated engine. The maximum pressure
in the cylinder thus corresponds to the maximum value of the
output voltage of the detector. The output signal of the detector
is applied to a circuit which detects the maximum pressure.
This is based on a rapid charging of a condenser through a
diode. The above instrument was compared with a Shelest indi-
cator and it was found that the discrepancies between the two
devices did not exceed 3%. There are 2 figures.

Fig. 1:
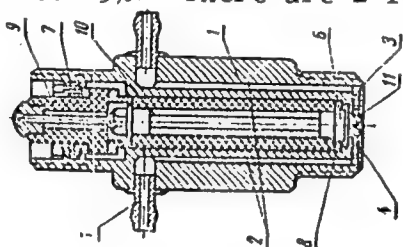
Card 3/3

KARPOV, R.G.

Insturment for measuring the efficiency of internal combustion
engines. Izv.vys.ucheb.zav.;prib. 4 no.4:7-17 '61. (MIRA 14:9)

1. Ryazanskiy radiotekhnicheskiy institut, Rekomendovana kafedroy
radioelektroizmereniya.
                    (Gas and oil engines--Testing)

KARPOV, R.G.

Electronic instrument for measuring maximum pressure of the
ignition. Izm.tekh. no.3:22-24 Mr '62.   (MIRA 15:2)
                         (Electronic instruments)

9.7150

AUTHOR: Karpov, R.G.

TITLE: Pulse-frequency integrator of variable-sign informa-
               tion loaded by a d.c. voltage

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priboro-
               stroyeniye, v. 5, no. 4, 1962, 40-46

TEXT: The integration of information loaded in the form
of a d.c. voltage is usually accomplished by some version of the d.c.
amplifier with a capacitative feedback loop. The integration time
in such circuits cannot exceed the product of the time constant
times the dynamical range, which amount at most to a few tens of
minutes, whereas in many problems a much longer integration time
arises. The suggestion here is to convert, by using follow-up sys-
tem techniques, the d.c. voltage into a frequency-modulated sinu-
soidal voltage, the instantaneous frequency of which is a linear
function of the input voltage. The output beats with a reference
oscillator and the difference-frequency signal drives a multivibra-

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Pulse-frequency integrator ...

tor the output pulses of which have a repetition frequency propor-
tional to the modulus of the d.c. voltage and can be counted over
any length of time. The design of such circuit is described in
great detail and it is shown to be capable of great accuracy. A
suitable sign-sensitive device is added to control a reversible
counter, when the information to be integrated is of variable sign.
There are 3 figures.

ASSOCIATION: Ryazanskiy radiotekhnicheskiy institut (Ryazan
               Radio-Engineering Institute)

SUBMITTED: November 10, 1961

Card 2/2

KARPOV, R.G.

Frequency-pulse integrator of alternating information given by
d.c. voltage. Izv.vys.ucheb.zav.; prib. 5 no.4:40-46 '62.
(MIRA 15:9)

1. Ryazanskiy radiotekhnicheskiy institut. Rekomendovana kafedroy
teoreticheskikh osnov radiotekhniki.
(Electronic analog computers)

KARPOV, R.G., kand.tekhn.nauk

Diode transformer circuits for the summation and subtraction
of frequency-pulse information in a pulsed form. Avtom.i prib.
no.4:31-35 O-D '62.   (MIRA 16:1)

1. Ryazanskiy radiotekhnicheskiy institut.
                        (Electronic data processing)

PHASE I BOOK EXPLOITATION   SOV/6578

Karpov, Rimma Grigor'yevich

Elektronika v ispytanii teplovykh dvigateley (Electronics in the
  Testing of Heat Engines) Moscow, Mashgiz, 1963. 166 p.
  5000 copies printed.

Reviewer: D. N. Gerasimov, Engineer; Ed.: A. I. Kuz'minov,
  Engineer; Ed. of Publishing House: N. M. Paleyev; Tech. Ed.:
  N. F. Demkina; Managing Ed. for Literature on Heat Energy,
  Metallurgy, Highway Construction, and Construction of Hoisting
  and Transporting Machinery: N. M. Zyuzin.

PURPOSE: This book is intended for engineering personnel in the
  aviation, automobile, and tractor industries.

COVERAGE: Principles of the function and circuit design of electronic
  measuring devices used for investigating internal combustion
  engines are presented. The book reviews electronic circuits for

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Electronics in the (Cont.)   SOV/6578

   obtaining an indicator diagram and its calibration and for
measuring basic engine parameters (indicated pressure, maximum
cycle pressure, torque, and indicated and actual power).
Principles of circuit design for the measurement of slowly
changing values are discussed briefly. There are 34 references,
all Soviet.

TABLE OF CONTENTS:

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KARPOV, R.G., kand, tekhn. nauk

Algebraic operations with frequency-pulsed information. Avtom.
i prib. no.4:43-47 O-D '63.   (MIRA 16:12)

1. Ryazanskiy radiotekhnicheskiy institut.

KARPOV, R. G.

Approximate differentiation of the "frequency-pulse informa-
tion." Izv. vys. ucheb. zav.; prib. 6 no.2:30-36 '63.
(MIRA 16:4)

1. Ryazanskiy radiotekhnicheskiy institut. Rekomendovana
kafedroy teoreticheskikh osnov radiotekhniki.

(Electronic analog computers)

KARPOV, R.G.

Analog-to-digital summator of frequency-pulse signals.
Izv. vys. ucheb. zav.; prib. 7 no.1:69-77 '64.

(MIRA 17:9)

1. Ryazanskiy radiotekhnicheskiy institut. Rekomendovana
kafedroy sistem upravleniya.

ACCESSION NR: AP4018997   S/0146/64/007/001/0069/0077

AUTHOR: Karpov, R. G.

TITLE: Analog-digital adder of pulse-frequency signals

SOURCE: IVUZ. Priborostroyeniye, v. 7, no. 1, 1964, 69-77

TOPIC TAGS: adder, analog digital adder, AND gate, OR gate, pulse frequency signal, Schmidt trigger, trigger

ABSTRACT: A new analog-digital adder (see Enclosure 1) is described in which continuous pulse sequences $N_1(t)$ and $N_2(t)$ that simulate in the pulse-frequency form the physical quantities $x_1(t)$ and $x_2(t)$ are applied to the inputs of two diode-resistor AND-gates 4 and 5. The gates are controlled by square pulses taken from a trigger 2, see diagrams b and c. Thus, the AND-gates will alternately feed their pulses to the OR-gate 6, and the total number of pulses per unit time will be given by $N'(t) = \frac{N_1(t) + N_2(t)}{2}$. Gates B_1 to B_{k-1} are connected digit-by-digit

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ACCESSION NR: AP4018997

to the counter 9; k is the number of digits which receive the time-delayed pulses from a blocking oscillator 3. As a result, the output of the counter will represent the sum of the source pulse-frequency signals $N_1(t)$ and $N_2(t)$ in the form of a parallel binary code; the discrete time moments will be determined by a clock 1. A modification of the above block diagram which permits the addition of two sequences with arbitrary weight coefficients is also considered, as are the sources of possible errors in such schemes. Orig. art. has: 3 figures and 15 formulas.

ASSOCIATION: Ryazanskiy radiotekhnicheskiy institut (Ryazan' Radiotechnical Institute)

SUBMITTED: 12Feb63   DATE ACQ: 23Mar64   ENCL: 01

SUB CODE: IE   NO REF SOV: 007   OTHER: 000

Card 2/3 2

ACCESSION NR: AP4036520   S/0103/64/025/005/0737/0740

AUTHOR: Karpov, R. G. (Ryazan')

TITLE: Arithmetical operations with pulse-frequency information

SOURCE: Avtomatika i telemekhanika, v. 25, no. 5, 1964, 737-740

TOPIC TAGS: computer, analog computer, frequency analog computer, pulse frequency analog computer

ABSTRACT: The possibility of eliminating conversion devices between frequency- or pulse-frequency-type sensors and d-c-type analog computers with a view towards simplicity, reliability, and economy is explored. Block diagrams show the schemes developed for addition, subtraction, multiplication, and division. The addition and subtraction diode-resistor schemes are based on pulse-potential AND-OR gates and include triggers and blocking oscillators. The multiplication scheme permits having one multiplier in the form of a d-c signal if necessary.

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ACCESSION NR: AP4036520

The division scheme operates on pulse-frequency signals and delivers the quotient also in the pulse form. Four types of error inherent to these schemes are discussed. The possibility of using these schemes between the plant and digital controllers is indicated. Orig. art. has: 3 figures and 7 formulas.

ASSOCIATION: none

SUBMITTED: 07Mar63   DATE ACQ: 03Jun64   ENCL: 00

SUB CODE: DP   NO REF SOV: 007   OTHER: 000

Card 2/2

L 32907-65   ENT(I)/EWD-2/EWA(h)   Peb

ACCESSION NR: AP5006630   S/0146/65/008/001/0013/0018

AUTHOR: Karpov, R. G.; Shapkin, B. D.

TITLE: Electronic phase shifter

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 1, 1965, 13-18

TOPIC TAGS: phase shifter, electronic phase shifter

ABSTRACT: Existing electron-tube phase shifters do not lend themselves easily
to cascade connection and have an undesirable variation of the output voltage with
phase. A new circuit is suggested in which a double triode 6N1P tube is used; one
triode operates as an amplifier feeding into an LCR load; a semiconductor diode
and the other tube triode work as a cathode follower. The latter combination,
controlled by an applied d-c voltage, acts as a variable resistor whose value
determines the phase shift between the input and output a-c voltages. The circuit
permits a theoretical phase shift of 180° in response to 0—∞ resistance variation.

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L 32907-65

ACCESSION NR: AP5006630

A 140—150° shift is reported as practically possible. An experimental model consisting of three cascade-connected phase shifters (6N9 tube, D203 diode) provided a phase shift within 0—400° in response to a d-c voltage control within 0—30 v. An approximately 300°-long segment of its characteristic was linear. Orig. art. has: 3 figures and 10 formulas.

[03]

ASSOCIATION: Ryazanskiy radiotekhnicheskiy institut (Ryazan Radiotechnical Institute)

SUBMITTED: 02Mar64   ENCL: 00   SUB CODE: EC

NO REF SOV: 003   OTHER: 000   ATD PRESS: 3206

Card 2/2

L 17692-66   EWT(d)/EWP(1)   IJP(c)   GG/BB

ACC NR: AP6007818

SOURCE CODE: UR/0120/66/000/001/0106/0110

AUTHOR: Gruzdev, S. V.; Karpov, R. G.

ORG: Ryazan Electrical Engineering Institute (Ryazanskiy radiotekhnicheskiy institut)

TITLE: Ferrite-transistor subtracting devices for pulse-frequency signals

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 106-110

TOPIC TAGS: ferrite transistor circuit, computer circuit, logic circuit

ABSTRACT: Two variants of a subtracting circuit developed at the Ryazan Radio
Engineering Institute are described. They are capable of producing pulse trains at
the outputs with repetition frequencies equal to the difference in repetition frequen-
cies of two signals applied at the   inputs. The variant shown in Fig. 1 is used
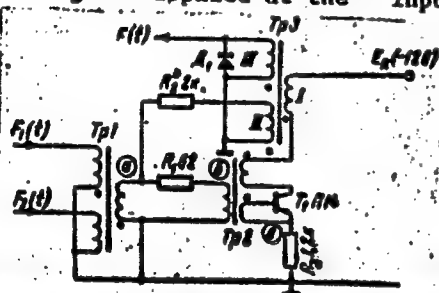
Fig. 1.   Arithmetic difference circuit

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UDC: 621.374.383

L 17692-66

ACC NR: AP6007818

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where both input signals $F_1(t)$ and $F_2(t)$ are positive pulse streams. Transformer Tpl operates in the nonsaturation mode and performs the anticoincidence operation. The other two transformers work in the saturation mode. The output train gives the arithmetic difference of two pulse repetition frequencies and is a positive polarity pulse train. A $\pm 10\%$ difference in signal amplitudes or pulse durations does not affect the performance of the circuit. The variant shown in Fig. 2 gives out the algebraic
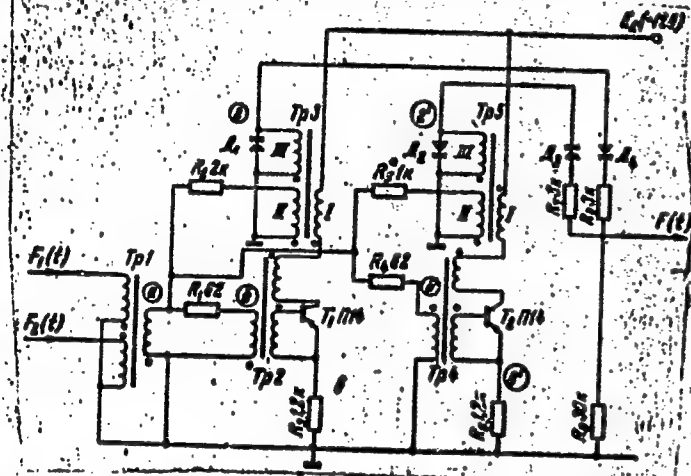
Fig. 2. Algebraic difference circuit

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ACC NR: AP6007818

difference between two pulse repetition frequencies; i.e., the output pulse train is positive if $F_1(t) > F_2(t)$ and negative if $F_1(t) < F_2(t)$. The OR gate output gives the correct sign of the output signal. In both variants, the output is zero when $F_1(t) = F_2(t)$. The limits of operation are as follows: highest allowable pulse repetition frequency, 100—120 kc; pulse duration, 3-5 μsec; ambient temperature, -50 to +50C; amplitude of the noise signal at the output, 5—10% of the useful signal. Test results showed that the actual and ideal number of pulses at the output never differed by more than one pulse. Orig. art. has: 4 formulas and 3 figures.   [BD]

SUB CODE: 09/ SUBM DATE: 22Jan65/ ORIG REF: 002/ ATD PRESS: 4210

Card 3/3

L 41698-66   EWT(d)/EWT(m)/EWP(w)   IJP(c)   EM

ACC NR: AP6019575   *(A)*   SOURCE CODE: UR/0115/66/000/004/0037/0041

AUTHOR: Karpov, R. G.

ORG: none

TITLE: Contactless converter for the measurement of torque

SOURCE: Izmeritel'naya tekhnika, no. 4, 1966, 37-41

TOPIC TAGS: angle measurement instrument, torque, torsion stress, error

ABSTRACT: The described method is based on determining the torsion angle between two ratchet wheels attached to the shaft whose torque is measured. The distance between the ratchet wheels is fixed and known. The wheels are made of magnetically soft material and serve as cores for inductive pickups whose pulsed signals are amplified and compared to determine the torsion angle. The theory of the method and the circuit elements are described. In view of the large number of factors that can influence the measurement accuracy, a careful prior calibration of the instrument is recommended. If this is done, the accuracy is potentially equal to the accuracy of the meter used to display the output of the instrument, although in practice the accuracy was lower in all cases. Orig. art. has: 4 figures and 14 formulas.

SUB CODE: 14/   SUBM DATE: 00/   ORIG REF: 004

Card 1/1

UDC: 681.2: 531.781

L 06298-67   EWT(1)   GD

ACC NR: AT6015377   SOURCE CODE: UR/0000/65/000/000/0266/0279

AUTHOR: Karpov, R. G.; Oranskiy, A. M.; Fomichev, V. A.

ORG: none

TITLE: Electronic systems for the approximate differentiation of pulse repetition rate modulated signals

SOURCE: AN BSSR, Institut tekhnicheskoy kibernetiki. Vychislitel'naya tekhnika (Computer engineering). Minsk, Nauka i tekhnika, 1965, 266-279

TOPIC TAGS: digital computer, computer technology, computer input unit, digital differential analyzer, differentiating circuit, differentiation

ABSTRACT: The authors describe a system designed to perform approximate differentiation on continuous or quantized pulse trains, the pulse repetition rate being modulated to represent a controlled process. In the current differentiation schemes, the pulse train is first converted into a varying dc voltage and then differentiated by conventional means. This method introduces errors and delays. The authors propose a new system which can perform the differentiating operations directly on the basis of the digital data. A pulse train having a repetition frequency representing the first derivative of the original pulse train is expressed as

$$F(t) = k\frac{dF_1(t)}{dt}.$$

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ACC NR: AT6015377

where $F(t)$ is the repetition frequency of the pulse train related to the first deriva-
tive of the original pulse train $F_1(t)$, k is the dimensional coefficient. This expres-
sion can be also written as

$$F(t) = \lim_{\Delta t \to 0} \frac{F_1(t + \Delta t) - F_1(t)}{\Delta t}$$

For a pulse train, the condition $\Delta t \to 0$ has no physical meaning, hence an approximate
differentiation can be used for $\Delta t \to \Delta \tau$, where $\Delta \tau$ is a small value, satisfying

$$\Delta \tau \ll T_x$$

T_x is the variation period of $F_1(t)$. Under these conditions

$$F(t)_p = \lim \frac{F_1(t + \Delta t) - F_1(t)}{\Delta t} = k \frac{\Delta F_1(t)}{\Delta t} \approx k \frac{dF_1(t)}{dt}.$$

This mathematical operation can be carried out using the system shown in figure 1.
In this system, the differentiation amounts to the generation of a pulse train $F(t)$
equal to the difference of the pulse train $F_1(t)$ and a new analogous pulse train $F_1'(t)$
delayed by a finite time interval $\Delta \tau$ with respect to $F_1(t)$. The pulse train to be dif-
ferentiated is fed into block 1 and block 3. Block one generates a fixed delay $\Delta \tau$.

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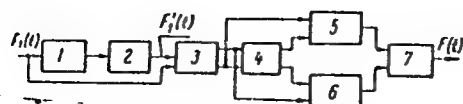
Fig. 1.

It can be in the form of a delay line for pulse trains having high repetition rates, or in the form of a magnetic drum, in which the delay is introduced by the use of two read heads displaced with respect to each other. The latter arrangement has the advantage of providing for variable adjustable delay. The output pulses of block 1 are shaped in block 2 and fed into block three, where coinciding pulses from both pulse trains are eliminated using a differential anticoincidence circuit. From here the two pulse trains minus coincidence pulses are introduced into block 4 which, in conjunction with blocks 5 and 6, has the task of generating a pulse train

No output occurs if $\qquad$ $F_1'(t) - F_1(t)$ if $F_1(t) > F_1'(t)$.

$$F_1'(t) > F_1(t), \text{ or } F_1'(t) = F_1(t).$$

Anticoincidence techniques are used to perform this operation. Block 7 is cathode follower output stage. The authors describe and analyze two practical circuits based on the proposed approximate differentiation method. The first is suitable for continuous pulse trains in which the instantaneous pulse repetition frequency is proportional to the current state of the monitored process; the second is designed to operate on quan-

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L 06298-67

ACC NR: AT6015377

tized pulse trains in which the pulses occur in "parcels" at distinct intervals. Orig. art. has: 5 figures.

SUB CODE: 09,12/ SUBM DATE: 15Dec65

Card 4/4

ACC NR: AP6036271   SOURCE CODE: UR/0108/66/021/011/0069/0071
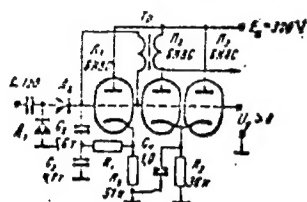
AUTHOR: Karpov, R. G.; Fomichev, V. A.

ORG: none

TITLE: Controllable frequency divider with storage-type counter

SOURCE: Radiotekhnika, v. 21, no. 11, 1966, 69-71

TOPIC TAGS: frequency divider, pulse counter

ABSTRACT: A divider is considered which turns a pulse packet of frequency $F_x(t)$ simulating a physical quantity into another pulse packet of frequency: $F_z(t) = F_x(t)/n$;

here, $n = n(t)$ is a stepwise adjustable division ratio of a storage-type counter (see figure). The circuit includes a blocking oscillator turned off by a voltage drop across R_3. The turn-on level can be adjusted by control voltage U_y applied to the grid circuit of the cathode follower. Experimental plots of division ratio vs. control voltage are shown. Orig. art. has: 3 figures and 6 formulas.

SUB CODE: 09 / SUBM DATE: 10Dec65 / ORIG REF: 002

Card 1/1   UDC: 621.374.4

(N)

| ACC NR: AM5027093 | (N) | Monograph | UR/ |

Karpov, Remir Nikolayevich; Maslenok, Boris Arkad'yevich; Tsyganko, Oleg Leonidovich

Control drive mechanisms for nuclear power reactors on ships (Privody reguliruyushchikh organov sudovykh atomnykh energeticheskikh reaktorov) Leningrad, Izd-vo "Sudostroyeniye," 1965. 250 p. illus., biblio., 2000 copies printed.

TOPIC TAGS: nuclear powered ship, nuclear power technology, nuclear engineering, nuclear reactor control equipment

PURPOSE AND COVERAGE: This book is intended for engineers and technicians engaged in the design and use of nuclear reactor control drives. It may also be of use to students in schools of higher education studying marine nuclear power systems. Problems of designing control drive mechanisms for marine nuclear reactors are covered and the requirements for these devices are discussed. Existing designs are described, and recommendations for the design and choice of materials for individual units and parts are given. Methods of kinematic, reliability, and heat calculations, methods of constructing individual units, and methods and means of testing the experimental drives are covered.

Card 1/3   UDC: 621.491—52:629.12

ACC NR: AM5027093

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ACC NR: AM5027093

SUB CODE: 18, 13/ SUBM DATE: 21Jun65/ ORIG REF: 073/ OTH REF: 016

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